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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/216,519 | 12/18/1998 | DARREN KERR | 112025-0112 | 9572 |

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EXAMINER

MEISLAHN, DOUGLAS J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2132

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/216,519

Applicant(s)

KERR ET AL.

Examiner

Douglas J. Meislahn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed 09 October 2002 that amended claims 1, 10, 20, 21, 27, and 32.

Response to Arguments

2. Applicant's arguments filed 09 October 2002 have been fully considered but they are not persuasive. With respect to claim 34, instructions for execution on a processor are functional descriptive material and thus must be embodied on a computer readable (MPEP 2106 IV, B, 1 (a)).

3. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 34 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Data structures must be embodied on a computer-readable medium to be statutory.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawe et al. in view of Chi et al. (5706489).

In the paragraph spanning columns 8 and 9, Hawe et al. teaches a pipelined cryptographic processor. They do not say that the processor executes opcodes to control encryption. In lines 56-63 of column 4, Chi et al. teach using opcodes to control cryptographic processes. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the pipelined processor in Hawe et al. with opcodes, as taught by Chi et al., thereby specifying the structure of data to be operated upon. Claims 2-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawe et al. and Chi et al. as applied to claims 1 and 12 and further in view of Narad et al.

Hawe et al. teaches a pipelined cryptographic processor. They do not mention that the encryptor is TCSM. With respect to this limitation, see figures 1-3 and 14 and columns 6-9, 14, 16, 30, 37, and 40 of Narad et al. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made for Hawe et al.'s encryptor to be an encryption tightly coupled state machine to accelerate processing.

7. Claims 20-23, 27-29, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawe et al. and Chi et al. as applied to claim 1 and further in view of Johns-Vano et al. (6026490) and Farrell et al. (5182800).

Hawe et al. show a pipelined cryptographic processor. Chi et al. talks about using arrays in lines 34-56 of column 11. They do not mention ALUs. Lines 36-38 of column 3 in Johns-Vano et al. show an execution unit that has an ALU and a cryptographic processor. In lines 46-49, Johns-Vano et al. explain that the cryptographic processor performs cryptographic operations. They do not mandate that the encryptor is a tightly coupled state machine. Farrell et al. teach the use of tightly coupled state machines in the pipelined systems in the abstract, figure 10, lines 60-63 of column 16, and lines 24-39 of column 30. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a tightly coupled state machine as the encryptor in Johns-Vano et al. in pipelining as taught by Farrell et al and to discriminate between the encryptor and the ALUs in Hawe et al. as taught by Johns-Vano et al. See also column 7 of Johns-Vano et al.

8. Claims 7-9, 13-14, 16-19, 25-27, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawe et al., Chi et al., Narad et al., Johns-Vano et al., and Farrell et al. as applied to claims 5, 12, 15, 21, and 28 above.

Narad et al. present a cryptographic processor in a pipeline environment. Johns-Vano et al. and Farrell et al. present a circuit that has ALUs and a tightly coupled state machine encryptor. Neither says that the encryptor performs DES related operations. Official notice is taken that DES is old and well-known. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform DES related operations with the encryptor in Narad et al. or Johns-Vano et al. because DES is a standard.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matyas et al. (5007089).

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Meislahn whose telephone number is (703) 305-1338. The examiner can normally be reached on between 9 AM and 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barrón can be reached on (703) 305-1830. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Douglas J. Meislahn
Examiner
Art Unit 2132

DJM
December 19, 2002

Matthew A. Smithers
MATTHEW SMITHERS
PRIMARY EXAMINER
Art Unit 2134